Load Balancing Strategy in Mobile Resource Management

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This paper is dealing with mobile resource management that uses cloud computing resources. Load balancing is an important part of mobile resource management. In order to be able to solve load balancing issues, we must examine its methods and their effectiveness. Further issues such as solution of load balancing problem in mobile and cloud computing environments also need further examination. In the following, we investigate load balancing procedures, methods and their customization, with a particular attention on mobile and cloud computing requirements. As a result, we expect that important design aspects will become apparent.

Mobile devices have become a part of everyday life. Due to their small size, being always at hand and having relatively high calculating capacity, offering wide variety of applications with very different resource need.

Cloud computing promises to provide high performance, flexible and low cost on- demand computing services. Their resources compared to mobile devices are significantly larger and more scalable.

The use of cloud resources in mobile device seems tangible. In our previous article we suggested such architecture of mobile resource management, which can utilize benefits of cloud computing, expanded with smart using of available network interface parallel. The goal of the mechanism is to decide where the optimal place is for a certain service/application to run; on the mobile terminal itself or on public cloud computing server. One of the most interesting question is the load balancing strategy of suggested resource management layer. In this article load balancing topic will be investigated; the way it can be inserted into current resource management architecture, which if this kind of strategy is more forward-looking and most advantageous. Load balancing strategy has a key role in resource management architecture; it must meet several parallel requirements. The main goal of load balancing is to optimize resource usage. In proposed resource management architecture currently two resources are available; mobile device and cloud computing environment. Well-chosen load balancing strategy may benefit from the extra resource, and can lead to increased performance and reliability.

In the current article software load balancing open questions were investigated, which were aroused during resource management architecture planning and realization.

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